

## REMARKS

The present application includes pending claims 1-31. Claims 27-31 have been allowed, while claims 2-8, and 15-21 have been objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1, 9-14, and 22-26 were rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent No. 6,579,240 (“Bjaerum”). The Applicants respectfully traverse this rejection, at least for the reasons set forth below.

“A claim is anticipated only if **each and every element** as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”” *See* Manual of Patent Examining Procedure (MPEP) at § 2131 (internal citation omitted). Further, “[t]he identical invention must be shown in as complete detail as it is contained... in the claim.”” *See id.* (internal citation omitted). As discussed below, Bjaerum does not expressly or inherently describe “every element as set forth” in the claims of the present application.

Bjaerum discloses an “ultrasound machine” that “generates a color representation of moving structure, such as a cardiac wall tissue within a region of interest, and is displayed on a monitor.” *See* Bjaerum at Abstract. “The color representation is generated by displaying at least one color characteristic related to a movement parameter of the structure, such as mean velocity or mean strain rate.” *See id.* Bjaerum addresses a need “for a robust approach to easily visualize a color-coded display of moving tissue structure such that a user may readily observe structural movement parameter values that are larger than mean values.” *See id.* at column 2, lines 36-40.

In order to address this need, Bjaerum discloses an apparatus “for generating a display responsive to moving structure of a subject within a region of interest (ROI) by displaying at least one color characteristic related to a movement parameter of the structure.” *Id.* at column 2, lines 48-52. In short, Bjaerum relates to color display of moving structure. *See also id.* at column 5, lines 28-31 (“Referring to FIG. 3, in TVI mode a fixed, continuous range of colors is used to indicate positive velocities and a second fixed, continuous range of color hues is used to indicate negative velocities.”); and column 9, lines 43-46 (“In SRI, exactly the same method as for TVI may be followed to display peak mean strain rate values. In addition, it may be possible to reserve a unique color hue for small spatial deformations under a preset strain rate threshold.”).

Bjaerum, however, does not expressly describe, or inherently disclose, an “apparatus for generating and displaying a plurality of **strain rate spectrums** in response to Doppler data generated by an ultrasound system,” including a “strain rate processor being response to said Doppler data to generate said **plurality of strain rate spectrums**,” such as recited, for example, in claim 1 of the present application.

As discussed in the background section of the present application:

Doppler methods to measure velocities can be divided into two different categories. **One method is spectral display and the other is color display.** In the spectral method, the Doppler spectrum for a single location in the image is calculated by splitting the ultrasound signal in short-time overlapping windows and calculating the spectrum in each window. The time-varying spectrum is displayed in a frequency-time display with the spectrum magnitude coded as grayscale intensity or color. The color method, on the other hand, calculates the mean Doppler frequency for

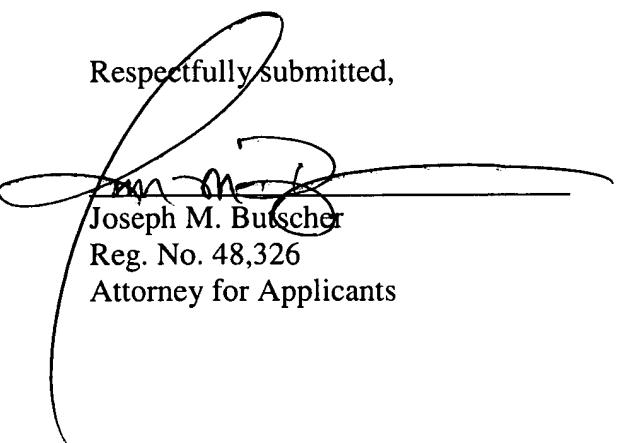
each point in the image and color encodes it for display.

**Only the color method has previously been applied to strain rate imaging.** In its simplest form, the color represents the difference in mean Doppler frequency at two spatial locations separated by a small distance, divided by the distance. A problem with the color method is that it may be difficult to discern areas in the image that give correct strain rate values and areas that are affected by decorrelation and acoustical noise, since only the mean Doppler frequencies are used.

*See* present application at ¶ [0003] (emphasis added). Thus, at least for this reason, the Applicants respectfully submit that claims 1, 9-14, and 22-26 should be in condition for allowance.

The Applicants respectfully submit that all of the pending claims of the present application should be in condition for allowance and request reconsideration of the claim rejections, at least for the reasons set forth above. If the Examiner has any questions or the Applicants can be of any assistance, the Examiner is invited to contact the Applicants. The Commissioner is authorized to charge any necessary fees or credit any overpayment to the Deposit Account No. 07-0845.

Respectfully submitted,



Joseph M. Butscher  
Reg. No. 48,326  
Attorney for Applicants

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MCANDREWS, HELD & MALLOY, LTD.  
500 West Madison Street, 34th Floor  
Chicago, Illinois 60661

Telephone: (312) 775-8000  
Facsimile: (312) 775-8100